TRANSMITTAL

FORM

Attorney Docket No. 108298705US Disclosure No. 02-1607

PTO/SB/21 (05-03)

Approved for use through 04/30/2003. OMB 0651-00321

September 17, 2003

Whonchee Lee

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. 10/665,219

Application Number

First Named Inventor

Filing Date

(to be used for all corre	spondence after initia	al filing)	Art Unit	3723 🗸		
			Examiner Name	Dung V. Nguyen		
Total Number of Pages i	n This Submission	9*	Attorney Docket Number	108298705US		
		ENCLO	SURES (Check all that a	pply)		
Fee Transmittal For	m	☐ Draw	ring(s)	After Allowance communication		
Fee Attached		Licen	Licensing-related Papers to Group			
Amendment/Reply		Petiti	on	Appeal Communication to Board of Appeals and Interferences		
After Final			on to Convert to a sional Application	Appeal Communication to Group		
Affidavits/decla	aration(s)	_	er of Attorney, Revocation	(Appeal Notice, Brief, Reply Brief) Proprietary Information		
Extension of Time R	tequest	_	ige of Correspondence Address	Status Letter		
Express Abandonm	ent Request	☐ Term	inal Disclaimer	Other Enclosures:		
Information Disclosu	ıre Statement	Request for Refund		1) Form PTO-1449;		
Certified Copy of Priority Document(s)		CD, Number of CD(s)		2) Cited References (28); 3) Return Receipt Postcard		
Response to Missin		Remarks	6			
Response to Munder 37 CFR	· ·					
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT				Y. OR AGENT		
Individual name	M. Wechkin stration No. 42,216					
Signature	pn.		<u>.</u>			
Date March 10			9 2004			
	CEF	RTIFICAT	E OF TRANSMISSION/I	VIAILING		
			ed with the United States Postal S 450, Alexandria, VA 22313-1450 o	Service with sufficient postage as first class mail in a on the date shown below.		
Typed or printed name	Stephen P. Whel	an				
Signature	Stepher 1	? While	·	Date March 19, 2004		

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

^{*} Number of Pages does not include Cited References

Attorney Docket No. 108298705US Disclosure No. 02-1607

Lereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on:

Date: March 19, 2004

By: Ttepher P. Whole

Stephen P. Whelan

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

WHONCHEE LEE ET AL.

EXAMINER:

DUNG V. NGUYEN

APPLICATION NO.:

10/665,219

ART UNIT:

3723

FILED:

SEPTEMBER 17, 2003

CONF. NO:

6284

For:

METHODS AND APPARATUS FOR REMOVING CONDUCTIVE MATERIAL

FROM A MICROELECTRONIC SUBSTRATE

<u>Information Disclosure Statement Within Three Months of</u>
<u>Application Filing or Before First Action – 37 C.F.R. § 1.97(b)</u>

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

1. Timing of Submission

This information disclosure is being filed within three months of the filing date of this application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever occurs last [37 C.F.R. § 1.97(b)]. The references listed on the enclosed Form PTO-1449 (modified) may be material to the examination of this application; the Examiner is requested to make them of record in the application.

2. <u>Cited Information</u>

\boxtimes	Copies of t	he following	references	are enclosed:
-------------	-------------	--------------	------------	---------------

☐ All cited references

References marked by two asterisks (**)

This application was filed after 30 June 2003 and no copies of U.S. patents nor published applications are enclosed (See Notice of Deputy Commissioner Kunin on 11 July 2003).

Attorney Docket No. 108298705US Disclosure No. 02-1607

The following references are not in English. For each such reference, the undersigned has enclosed (i) a translation of the reference; (ii) a copy of a communication from a foreign patent office or International Searching Authority citing the reference, (iii) a copy of a reference which appears to be an English-language counterpart, or (iv) an English-language abstract for the reference prepared by a third party. Applicant has not verified that the translation, English-language counterpart or third-party abstract is an accurate representation of the teachings of the non-English reference, though, and reserves the right to demonstrate otherwise.

☐ All cited references

3. Effect of Information Disclosure Statement (37 C.F.R. § 1.97(h))

This Information Disclosure Statement is not to be construed as a representation that: (i) a search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the cited information is, or is considered to be, material to patentability. In addition, applicant does not admit that any enclosed item of information constitutes prior art to the subject invention and specifically reserves the right to demonstrate that any such reference is not prior art.

4. Fee Payment

No fees are believed due because this Information Disclosure Statement is being filed before the mailing date of the first Office Action.

However, should the Commissioner determine that fees are due in order for this Information Disclosure Statement to be considered, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 50-0665.

Date: March 19 604

John M. Wechkin

Registration No. 42,216

Respectfully submitted, Perkins Coie LLP

Correspondence Address:

Customer No. 25096
Perkins Coie LLP
P.O. Box 1247
Seattle, Washington 98111-1247
(206) 359-8000

MAR 2 2 2004 SU

Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

6

1

С	COMPLETE IF KNOWN				
Application Number	10/665,219				
Confirmation Number	6284				
Filing Date	September 17, 2003				
First Named Inventor	Whonchee Lee				
Group Art Unit	3723				
Examiner Name	Dung V. Nguyen				
Attorney Docket No.	108298705US				

			U	.S. PATENT DOCUMENTS		
Examiner Initials*	Cite No.	U.S. Patent or Applicati	ion Kind Code (if known)	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	**	U.S. Application No. 09/651,779 (Atty. Docket No. 10829.8515US)		Moore	Filed 08/30/2000	
	**	U.S. Application No. 09/651,808		Chopra et al.	Filed 08/30/2000	
	**	U.S. Application No. 09/653,392		Chopra et al.	Filed 08/31/2000	
	**	U.S. Application No. 09/653,411		Lee et al.	Filed 08/31/2000	
	**	U.S. Application No. 10/230,463 (Atty. Docket No. 10829.8672US)		Lee et al.	Filed 08/29/2002	
	**	U.S. Application No. 10/230,602 (Atty. Docket No. 10829.8674US)		Chopra	Filed 08/29/2002	
	**	U.S. Application No. 10/230,628 (Atty. Docket No. 10829.8673US)		Lee et al.	Filed 08/29/2002	
		2001/0025976	A1	Lee	10/04/2001	
		2001/0036746	A1	Sato et al.	11/01/2001	
		2002/0025763	A1	Lee et al.	02/28/2002	
		2002/0025760	A1	Lee et al.	02/28/2002	
		2002/0025759	A1	Lee et al.	02/28/2002	
		2002/0052126	A1	Lee et al.	05/02/2002	
		2002/0070126	A1	Sato et al.	06/13/2002	
		2003/0054729	A1	Lee et al.	03/20/2003	
		2003/0109198	A1	Lee et al.	06/12/2003	

EXAMINER		DATE CONSIDERED	
*EXAMINER:	Initial if reference considered, whether or not criteria is in confinot considered. Include copy of this form with next communic		Draw line through citation if not in conformance and

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

6

2

Sheet

C	COMPLETE IF KNOWN	
Application Number	10/665,219	
Confirmation Number	6284	
Filing Date	September 17, 2003	
First Named Inventor	Whonchee Lee	
Group Art Unit	3723	
Examiner Name	Dung V. Nguyen	
Attorney Docket No.	108298705US	

			U	.S. PATENT DOCUMENTS		
Examiner Initials*	Cite No.		ind Code	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		2003/0129927	A1	Lee et al.	07/10/2003	
		2003/0226764	A1	Moore et al.	12/11/2003	
		2,315,695		Faust	04/06/1943	
		2,516,105		der Mateosian	07/25/1950	
		3,334,210		Williams et al.	08/01/1967	
		4,839,005		Katsumoto et al.	06/13/1989	
		5,244,534		Yu et al.	09/14/1993	
		5,300,155		Sandhu et al.	04/05/1994	
		5,344,539		Shinogi et al.	09/06/1994	
		5,567,300		Datta et al.	10/22/1996	
		5,575,885		Hirabayashi et al.	11/19/1996	
		5,618,381		Doan et al.	04/08/1997	
		5,676,587		Landers et al.	10/14/1997	
		5,681,423		Sandhu et al.	10/28/1997	**
		5,780,358		Zhou et al.	07/14/1998	
		5,807,165		Uzoh et al.	09/15/1998	
		5,840,629		Carpio	11/24/1998	
		5,846,398		Carpio	12/08/1998	
	~	5,863,307		Zhou et al.	01/26/1999	
		5,897,375		Watts et al.	04/27/1999	
		5,911,619		Uzoh et al.	06/15/1999	
		5,930,699		Bhatia	07/27/1999	
		5,934,980		Koos et al.	08/10/1999	-

EXAMINER		DATE CONSIDERED
*EXAMINER:	Initial if reference considered, whether or not criteria is in conference considered. Include copy of this form with next communic	ormance with MPEP 609. Draw line through citation if not in conformance and ation to application(s).

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

3

Sheet

(COMPLETE IF KNOWN				
Application Number	10/665,219				
Confirmation Number	6284				
Filing Date	September 17, 2003				
First Named Inventor	Whonchee Lee				
Group Art Unit	3723				
Examiner Name	Dung V. Nguyen				
Attorney Docket No.	108298705US				

	U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.	U.S. Patent or Application Kind Code NUMBER (if known)	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,952,687	Kawakubo et al.	09/14/1999	<u> </u>
		5,954,975	Cadien et al.	09/21/1999	
		5,954,997	Kaufman et al.	09/21/1999	
		5,972,792	Hudson	10/26/1999	
		5,993,637	Hisamatsu et al.	11/30/1999	
		6,001,730	Farkas et al.	12/14/1999	
		6,010,964	Glass	01/04/2000	
		6,024,856	Haydu et al.	02/15/2000	
		6,033,953	Aoki et al.	03/07/2000	
		6,039,633	Chopra	03/21/2000	
		6,046,099	Cadien et al.	04/04/2000	
		6,051,496	Jang	04/18/2000	
		6,060,386	Givens	05/09/2000	
	10-10	6,060,395	Skrovan et al.	05/09/2000	
		6,063,306	Kaufman et al.	05/16/2000	
		6,066,030	Uzoh	05/23/2000	
		6,066,559	Gonzalez et al.	05/23/2000	
		6,068,787	Grumbine et al.	05/30/2000	
-	* * *	6,083,840	Mravic et al.	07/04/2000	7.09.00
		6,100,197	Hasegawa	08/08/2000	-
		6,103,096	Datta et al.	08/15/2000	
		6,103,628	Talieh	08/15/2000	
		6,115,233	Seliskar et al.	09/05/2000	

6

EXAMINER		DATE CONSIDERED
*EXAMINER:	Initial if reference considered, whether or not criteria is in confe	ormance with MPEP 609. Draw line through citation if not in conformance and
	not considered. Include copy of this form with next communic	ation to application(s).

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

6

4

Sheet

	COMPLETE IF KNOWN				
Application Number 10/665,219					
Confirmation Number	6284				
Filing Date	September 17, 2003				
First Named Inventor	Whonchee Lee				
Group Art Unit	3723				
Examiner Name	Dung V. Nguyen				
Attorney Docket No.	108298705US				

			U	.S. PATENT DOCUMENTS		
Examiner Initials*	Cite No.	U.S. Patent or Application Kind Code NUMBER (if known)		Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		6,117,781		Lukanc et al.	09/12/2000	
		6,121,152		Adams et al.	09/19/2000	
		6,132,586		Adams et al.	10/17/2000	
		6,143,155		Adams et al.	11/07/2000	
		6,171,467	B1	Weihs et al.	01/09/2001	
		6,174,425	B1	Simpson et al.	01/16/2001	
		6,176,992	B1	Talieh	01/23/2001	
		6,180,947	B1	Stickel et al.	01/30/2001	
		6,187,651	B1	Oh	02/13/2001	
		6,196,899	B1	Chopra et al.	03/06/2001	
		6,197,182	B1	Kaufman et al.	03/06/2001	
		6,206,756	B1	Chopra et al.	03/27/2001	
		6,218,309	B1	Miller et al.	04/17/2001	
		6,250,994	B1	Chopra et al.	06/26/2001	
		6,259,128	B1	Adler et al.	07/10/2001	
		6,273,786	B1	Chopra et al.	08/14/2001	
		6,276,996	B1	Chopra	08/21/2001	
		6,280,581	B1	Cheng	08/28/2001	
		6,287,974	B1	Miller	09/11/2001	
		6,299,741	B1	Sun et al.	10/09/2001	
		6,303,956	B1	Sandhu et al.	10/16/2001	
		6,313,038	B1	Chopra et al.	11/06/2001	
		6,328,632	B1	Chopra	12/11/2001	
		6,368,190	B1	Easter et al.	04/09/2002	

EXAMINER

DATE CONSIDERED

*EXAMINER:

Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s).

INFORMATION DISCLOSURE STATEMENT BY APPLICANT Form PTO-1449 (Modified) (Use several sheets if necessary) Application Number 10 Confirmation Number 62 Filing Date Se

6

of

Sheet

5

COMPLETE IF KNOWN			
Application Number	10/665,219		
Confirmation Number	6284		
Filing Date	September 17, 2003		
First Named Inventor	Whonchee Lee		
Group Art Unit	3723		
Examiner Name	Dung V. Nguyen		
Attorney Docket No.	108298705US		

- <u>-</u>				U.	S. PATENT DOCUMENTS			
Examiner Initials*	Cite No.			on Kind Code (if known)	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Wh Relevant Passages or Relevant Figures Appear	
			6,379,223	B1	Sun et al.	04/30/2002		
			6,455,370	B1	Lane	09/24/2002		
	<u> </u>			FORI	IGN PATENT DOCUMENTS			
Examiner Initials*	Cite No.			ation Kind Code		Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	 -
	**	JP	2001077117	A2, A3		03/23/2001	<u> </u>	
	**	EP	0459397	A1	Kabushiki Kaisha Toshiba	12/04/1991		
·	**	wo	02/064314	A1	Speedfam-IPEC Corporation	08/22/2002		
	**	wo	00/26443	A2, A3	Nutool, Inc.	05/11/2000		
	**	wo	00/28586	A2, A3	Micron Technology, Inc.	05/18/2000		
	**	wo	00/32356	A1	Nutool, Inc.	06/08/2000		
	**	wo	00/59008	A2, A3	Nutool, Inc	10/05/2000		
·	**	wo	00/59682	A1	Nutool, Inc	10/12/2000	· ·	
			OTHER PR	OR ART	NON PATENT LITERATURE D	OCUMENTS		
Examiner Initials*	(Ţ		
	**	ABOAF, J.A. and R.W. BROADIE, IBM Technical Disclosure Bulletin, Rounding of Square-Shape Holes in Silicon Wafers, Vol. 19, No. 8, p. 3042, January 1977, XP-002235690, NN 77013042.						
** ATMI, Inc., adapted from a presentation at the Semicon West '99 Low Dielectric Ma Technology Conference, San Francisco, California, July 12, 1999, pp. 13-25.								
	**	 BASSOUS, E., IBM Technical Disclosure Bulletin, Low Temperature Methods for Rounding Silicon Nozzles, Vol. 20, No. 2, July 1977, pp. 810-811, XP-002235692, NN 7707810. BERNHARDT, A.F., CONTOLINI, R.J., MAYER, S.T, "Electrochemical Planarization for Multi-Level Metallization of Microcircuitry," <i>CircuiTree Journal</i>, Vol. 8, No. 10, pp. 38, 40, 42, 44, 46, and 48, Oct. 1995. 						
	**							

EXAMINER		DATE CONSIDERED	
*EXAMINER:	Initial if reference considered, whether or not criteria is in confe	ormance with MPEP 609. Draw line through citation if not in co	onformance and
	not considered. Include copy of this form with next communic	ation to application(s).	

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

6

6

Sheet

COMPLETE IF KNOWN			
Application Number	10/665,219		
Confirmation Number	6284		
Filing Date	September 17, 2003		
First Named Inventor	Whonchee Lee		
Group Art Unit	3723		
Examiner Name	Dung V. Nguyen		
Attorney Docket No.	108298705US		

		OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	т
	**	D'HEURLE, F.M. and K.C. PARK, IBM Technical Disclosure Bulletin, Electrolytic Process for Metal Pattern Generation, Vol. 17, No. 1, pp. 271-272, June 1974, XP-002235691, NN 7406271.	
	**	FRANKENTHAL, R.P. and EATON, D.H., "Electroetching of Platinum in the Titanium-Platinum-Gold Metallization on Silicon Integrated Circuits", <i>Journal of The Electrochemical Society</i> , Vol. 123, No. 5, pp. 703-706, May 1976.	
	**	HUANG, C.S. et al., "A Novel UV Baking Process to Improve DUV Photoresist Hardness," pp. 135-138, Proceedings of the 1999 International Symposium on VLSI Technology, Systems, and Applications: Proceedings of Technical Papers: June 8-10, 1999, Taipei, Taiwan, Institute of Electrical and Electronics Engineers, Inc., September 1999.	
	**	JUCHNIEWICZ, R. et al. "Influence of Pulsed Current of Platinised Titanium and Tantalum Anode Durability," International Congress on Metallic Corrosion, Proceedings - Volume 3, pp. 449-453, Toronto, June 3-7, 1984.	
	**	KONDO, S. et al., "Abrasive-Free Polishing for Copper Damascene Interconnection," Journal of the Electrochemical Society, Vol. 147, No. 10, pp. 3907-3913, The Electrochemical Society, Inc., Pennington, New Jersey, 2000.	
	**	McGraw-Hill, Concise Encyclopedia of Science & Technology, Sybil P. Parker, Editor in Chief, Fourth Edition, p. 367, McGraw-Hill, New York, 1998.	
	**	Micro Photonics, Inc., "CSM Nano Hardness Tester," 6 pages, retrieved from the Internet on July 29, 2002, http://www.microphotonics.com/nht.html .	
	**	Micro Photonics, Inc., CSM Application Bulletin, "Low-load Micro Scratch Tester (MST) for characterisation of thin polymer films," 3 pages, retrived from the Internet on July 25, 2002, http://www.microphotonics.com/mstABpoly.html .	
	**	PhysicsWorld, "Hard Materials", excerpt of "Superhard Superlattices," 1 page, January 1998, S. Barnett and A. Madan, retrieved from the Internet on July 29, 2002, http://physicsweb.org/box/world/11/1/1/world-11-1-1-1-1 .	

EXAMINER	DATE CONSIDERED
*EXAMINER:	Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and
	not considered. Include copy of this form with next communication to application(s).